

REMARKS

The Examiner is thanked for the thorough review and consideration of the pending application. The Office Action dated August 8, 2007 has been received and its contents carefully reviewed.

Claims 1-5, 14-18 and 23 are rejected by the Examiner. With this response, claims 1, 2, and 23 are amended. No new matter has been added. Claims 1-5, 14-18, and 21-23 are pending in the subject application, with claims 21 and 22 having been previously withdrawn.

In the Office Action, claims 1-5, 14 and 15 are rejected under 35 U.S.C. §103(a) as being unpatentable over Japanese Publication 2000-284295 to Satoshi et al. (hereinafter “Satoshi”) in view of U.S. Patent No. to 2,874,751 Norton (hereinafter “Norton”). Claims 16-18 are rejected under 35 U.S.C. §103(a) as being unpatentable over Satoshi and Norton, further in view of U.S. Patent No. 5,324,053 to Kubota et al. (hereinafter “Kubota”). Claim 23 is rejected as being unpatentable over Satoshi and Norton, further in view Japanese Publication JP11-264991A to Matsushita (hereinafter “Matsushita”).

The rejection of claims 1-5, 14 and 15 under 35 U.S.C. §103(a) as being unpatentable over Satoshi in view of Norton is respectfully traversed and reconsideration is requested. Applicants submit that the cited references including Satoshi and Norton do not teach or suggest the combined features of the claims.

Independent claim 1 recites a substrate bonding apparatus for manufacturing a liquid crystal display (LCD) device, having a combination of features including, for example, “wherein the upper and lower chambers define an interior space capable of being sealed and evacuated to apply a vacuum pressure, and wherein the at least one of the first and second elastic members arranged between the fixing plate and the securing plate apply restorative forces to the fixing plate and securing plate to oppose deformation of the fixing plate and securing plate due to deforming forces generated by convex bending of the corresponding one of the upper and lower chamber units due to application of the vacuum pressure and the weight of the upper and lower stages.”

In rejecting the claims, the Examiner acknowledges that Satoshi does not disclose the elastic members, and relies on Norton's disclosure of "springs (20) between the platen and the face piece" to cure the deficiencies in the teachings of Satoshi. See Office Action page 3.

Applicants respectfully disagree with the teaching of Norton cures the deficiency in Satoshi. Norton discloses the following regarding the springs 20 and 24:

"The platen member 16 has been moved upwardly away from the platen member 22 a distance sufficient to permit the springs 20 to urge the face piece 19 away from the bottom of the platen member 16 and also sufficient to urge the face piece 23 up from the top surface of the platen member 22. The springs 20 and 24 are, however preferably still under compression so that the face pieces 19 and 23 press tightly against the molded material M. This arrangement presents any tendency against deformation in the molded material during cooling."

Applicants submit that Norton does not teach "elastic members arranged between the fixing plate and the securing plate apply restorative forces to the fixing plate and securing plate to oppose deformation of the fixing plate and securing plate due to deforming forces generated by convex bending of the corresponding one of the upper and lower chamber units due to application of the vacuum pressure and the weight of the upper and lower stages," and accordingly submit that Norton does not cure the deficiencies in the teachings of Satoshi.

The rejection of claims 16-18 under 35 U.S.C. §103(a) as being unpatentable over Satoshi in view of Norton, and further in view of Kubota is respectfully traversed and reconsideration is requested. Applicants submit that the cited references including Satoshi, Norton, and Kubota do not teach or suggest the combined features of the claims.

Claims 16-18 depend from claim 1, and each includes by reference all of the features of claim 1. As discussed above, Satoshi and Norton do not teach the combined features of claim 1. In rejecting claims 16-18, the Examiner relies on Kubota to teach "wherein the securing plate includes stainless steel," "wherein the securing plate includes an aluminum alloy" and "wherein the securing plate is at least about 40mm thick" as recited in claim 16-18. Applicants do not reach the Examiner's conclusion regarding Kubota. Applicants submit that Kubota does not cure the deficiencies in the teachings of Satoshi and Norton with regards to the combined features of claim 1, and that Satoshi, Norton, and Kubota, analyzed singly or in any combination do not teach the combined feature of the claims. Accordingly, Applicants submit that claim 1, and claims 16-18 depending from claim 1 are each allowable over Satoshi, Norton, and Kubota.

The rejection of claim 23 under 35 U.S.C. §103(a) as being unpatentable over Satoshi and Norton, further in view Matsushita is respectfully traversed and reconsideration is requested. Applicants submit that the cited references including Satoshi and Norton do not teach or suggest the combination of features recited in claim 23.

Claim 23 recites a substrate bonding apparatus for manufacturing a liquid crystal display device having a combination of features including, for example, “an upper chamber unit joinable to the lower chamber unit, wherein the upper and lower chambers define an interior space capable of being sealed and evacuated to apply a vacuum pressure; and wherein the at least one of the first and second elastic members arranged between the fixing plate and the securing plate apply restorative forces to the fixing plate and securing plate to oppose deformation of the fixing plate and securing plate due to deforming forces generated by convex bending of the corresponding one of the upper and lower chamber units due to application of the vacuum pressure and the weight of the upper and lower stages.”

Applicants submit that Satoshi and Norton do not teach the above-identified combination of features for at least the reasons discussed above for claim 1. The Examiner relies on Matsushita to teach “securing plate includes a plurality of holes for transmitting a suction force to secure a substrate.” Applicants do not reach the Examiner’s conclusion regarding the teachings of Matsushita. Applicants submit that Kubota does not cure the deficiencies in the teachings of Satoshi and Norton with regards to at least “elastic members arranged between the fixing plate and the securing plate apply restorative forces to the fixing plate and securing plate to oppose deformation of the fixing plate and securing plate due to deforming forces generated by convex bending of the corresponding one of the upper and lower chamber units due to application of the vacuum pressure and the weight of the upper and lower stages” as recited in claim 23, and that Satoshi, Norton, and Matsushita, analyzed singly or in any combination do not teach the combined feature of the claim 23. Accordingly, Applicants submit that claim 23 is allowable over Satoshi, Norton, and Matsushita.

Applicants believe the application is in condition for allowance in light of the foregoing amendments and remarks and early, favorable action is respectfully solicited.

If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is requested to call the undersigned attorney at (202) 496-7500 to discuss the steps

necessary for placing the application in condition for allowance. All correspondence should continue to be sent to the below-listed address.

If these papers are not considered timely filed by the Patent and Trademark Office, then a petition is hereby made under 37 C.F.R. § 1.136, and any additional fees required under 37 C.F.R. § 1.136 for any necessary extension of time, or any other fees required to complete the filing of this response, may be charged to Deposit Account No. 50-0911. Please credit any overpayment to deposit Account No. 50-0911. *A duplicate copy of this sheet is enclosed.*

Dated: November 5, 2007

Respectfully submitted,

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